

CLAIMS

1. A channel estimating apparatus comprising:
phase rotation detecting means for separately
5 detecting a frequency offset component and a fading fluctuation
component of a phase rotation from a known signal included in
a received signal; and
channel estimating means for carrying out channel
estimation using said frequency offset component and said fading
10 fluctuation component of the phase rotation.
2. The channel estimating apparatus according to claim
1, further comprising a first phase rotation correcting means
for carrying out a phase rotation correction of a slot unit
using the frequency offset component of the phase rotation.
- 15 3. The channel estimating apparatus according to claim
1, further comprising a second phase rotation correcting means
for carrying out a phase rotation correction of a symbol unit
using the frequency offset component of the phase rotation.
4. The channel estimating apparatus according to claim
20 1, further comprising weight factor calculating means for
calculating a weight factor which is used to carry out a weighting
addition among the slots in a channel estimation using the fading
fluctuation component of the phase rotation.
5. The channel estimating apparatus according to claim
25 4, said channel estimating apparatus calculates a channel
estimation value of each symbol by multiplying the output after
weighting addition by the phase rotation correction value of

a symbol unit calculated by said second phase rotation correcting means when calculating channel estimation value of each symbol.

6. The channel estimating apparatus according to claim
5 4, said channel estimating apparatus carries out a processing on the output after weighting addition to adjust the channel estimation value to a slot median when calculating a channel estimation value as the average of slots.

7. A base station apparatus comprising a channel
10 estimating apparatus, said channel estimating apparatus comprising:

phase rotation detecting means for separately
detecting a frequency offset component and a fading fluctuation
component of a phase rotation from a known signal included in
15 a received signal; and

channel estimating means for carrying out channel
estimation using said frequency offset component and said fading
fluctuation component of the phase rotation.

8. A channel estimating method comprising:
20 a phase rotation detecting step of separately
detecting a frequency offset component and a fading fluctuation
component of a phase rotation from a known signal included in
a received signal; and

carrying out channel estimation using said frequency
25 offset component and said fading fluctuation component of the
phase rotation.

9. The channel estimating method according to claim 8,

further comprising:

a first phase rotation correction step of carrying out a phase rotation correction of a symbol unit using said frequency offset component of the phase rotation; and

5 a second phase rotation correction step of carrying out a phase rotation correction of a slot unit using said frequency offset component of the phase rotation.

10. The channel estimating method according to claim 8, further comprising a weight factor calculating step of
10 calculating a weight factor which is used to carry out a weight addition among the slots in the received signal using the fading fluctuation component of the phase rotation.